

1 1. A security article, comprising:

2 (a) a light transmissive substrate having a first surface and an opposing second
3 surface, the first surface having an optical interference pattern associated therewith, said
4 optical interference pattern comprises microstructures having dimensions in the range from
about 0.1 microns to about 10 microns; and

5 (b) a color shifting multilayer optical coating overlying the second surface of the
6 substrate.

7
8 2. The security article of claim 1, wherein the microstructures have dimensions
9 in the range from about 0.1 microns to about 1 micron.

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11 3. The security article of claim 1, wherein the color shifting multilayer optical
12 coating comprises:

13 an absorber layer overlying the second surface of the substrate;
14 a dielectric layer overlying the absorber layer; and
15 a reflector layer overlying the dielectric layer.

16
17 4. The security article of claim 1, wherein the color shifting multilayer optical
18 coating comprises:

19 an absorber layer overlying the second surface of the substrate;
20 a dielectric layer overlying the absorber layer; and
21 an absorber layer overlying the dielectric layer.

22
23 5. The security article of claim 1, wherein the color shifting multilayer optical
24 coating comprises alternating layers of low and high index of refraction dielectric layers.

1 6. The security article of claim 1, wherein the color shifting multilayer optical
2 coating comprises a plurality of multilayer color shifting flakes dispersed in a polymeric
3 medium.

4 7. The security article of claim 1, further comprising a laser ablated image
5 formed in said optical coating.

6 7. The security article of claim 1, further comprising an adhesive layer
8 laminating said optical coating to said second surface of the substrate.

9 10. The security article of claim 1, wherein said security article is in the form of a
11 security thread.

12 13. The security article of claim 1, further comprising an adhesive layer overlying
14 the optical coating for securing the security article to an object.

15 16. The security article of claim 1, wherein the optical interference pattern is
17 formed on said light transmissive substrate.

18 19. The security article of claim 1, wherein the optical interference pattern is on a
20 layer secured to the light transmissive substrate.

13. A security article comprising:

1 (a) a light transmissive substrate having a first surface and an opposing second
2 surface, the first surface having an optical interference pattern associated therewith;

3 (b) a color shifting multilayer optical coating overlying the second surface of the
4 substrate; and

5 (c) a laser ablated image formed in said optical coating.

7 14. The security article of claim 13, wherein the optical interference pattern
8 comprises microstructures having dimensions in the range from about 0.1 microns to about
9 10 microns.

11 15. The security article of claim 13, wherein the optical interference pattern
12 comprises microstructures having dimensions in the range from about 0.1 microns to about 1
13 micron.

15 16. The security article of claim 13, wherein the color shifting multilayer optical
16 coating comprises:

17 an absorber layer overlying the second surface of the substrate;
18 a dielectric layer overlying the absorber layer; and
19 a reflector layer overlying the dielectric layer.

21 17. The security article of claim 13, wherein the color shifting multilayer optical
22 coating comprises:

23 an absorber layer overlying the second surface of the substrate;
24 a dielectric layer overlying the absorber layer; and
25 an absorber layer overlying the dielectric layer.

1 18. The security article of claim 13, wherein the color shifting multilayer optical
coating comprises alternating layers of low and high index of refraction dielectric layers.

2
3 19. The security article of claim 13, wherein the color shifting multilayer optical
coating comprises a plurality of multilayer color shifting flakes dispersed in a polymeric
5 medium.

6
7 20. The security article of claim 13, further comprising an adhesive layer
8 laminating said optical coating to said second surface of the substrate.

9
10 21. The security article of claim 13, wherein said security article is in the form of
11 a security thread.

12
13 22. The security article of claim 13, further comprising an adhesive layer
14 overlying the optical coating for securing the security article to an object.

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16 23. The security article of claim 13, wherein the optical interference pattern is
17 formed on said light transmissive substrate.

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19 24. The security article of claim 13, wherein the optical interference pattern is on
20 a layer secured to the light transmissive substrate.

1 25. A security article comprising:

2 (a) a light transmissive substrate having a first surface and an opposing second
3 surface, the first surface having an optical interference pattern associated therewith; and
4 (b) a color shifting multilayer optical coating overlying the second surface of the
5 substrate, and
6 (c) an adhesive layer laminating said optical coating to said second surface.

7 26. The security article of claim 25, wherein the optical interference pattern
8 comprises microstructures having dimensions in the range from about 0.1 microns to about
9 10 microns.

10
11 27. The security article of claim 25, wherein the optical interference pattern
12 comprises microstructures having dimensions in the range from about 0.1 microns to about 1
13 micron.

14
15 28. The security article of claim 25, wherein the color shifting multilayer optical
16 coating comprises:

17 an absorber layer overlying the second surface of the substrate;
18 a dielectric layer overlying the absorber layer; and
19 a reflector layer overlying the dielectric layer.

20
21 29. The security article of claim 25, wherein the color shifting multilayer optical
22 coating comprises:

23 an absorber layer overlying the second surface of the substrate;
24 a dielectric layer overlying the absorber layer; and
25 an absorber layer overlying the dielectric layer.

1 30. The security article of claim 25, wherein the color shifting multilayer optical
coating comprises alternating layers of low and high index of refraction dielectric layers.

2
3 31. The security article of claim 25, wherein the color shifting multilayer optical
coating comprises a plurality of multilayer color shifting flakes dispersed in a polymeric
5 medium.

6
7 32. The security article of claim 25, further comprising a laser ablated image
8 formed in said optical coating.

9
10 33. The security article of claim 25, wherein said security article is in the form of
11 a security thread.

12
13 34. The security article of claim 25, further comprising an adhesive layer
14 overlying the optical coating for securing the security article to an object.

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16 35. The security article of claim 25, wherein the optical interference pattern is
17 formed on said light transmissive substrate.

18
19 36. The security article of claim 25, wherein the optical interference pattern is on
20 a layer secured to the light transmissive substrate.